

Immediate Fentanyl to Extended-Release Buprenorphine Transition in Two Adolescents with OUD

BACKGROUND

- Adolescent overdose deaths with fentanyl involvement increased 4-fold from 2019 to 2021 (253 to 884 deaths)
- Buprenorphine (BUP) is recommended for adolescents with OUD
- Barriers to SL-BUP initiation include: (1) medication nonadherence & (2) concern for precipitated withdrawal
- XR-BUP could be a solution; however, BUP initiation is challenging due to medication nonadherence and requirement for SL-BUP stabilization prior to XR-BUP injection
- Hypothesis: A rapid rise in serum BUP concentrations with XR-BUP might mimic those seen in high-dose BUP inductions**

Figure 1: Plasma Buprenorphine and Norbuprenorphine Concentrations Following XR-BUP Injection

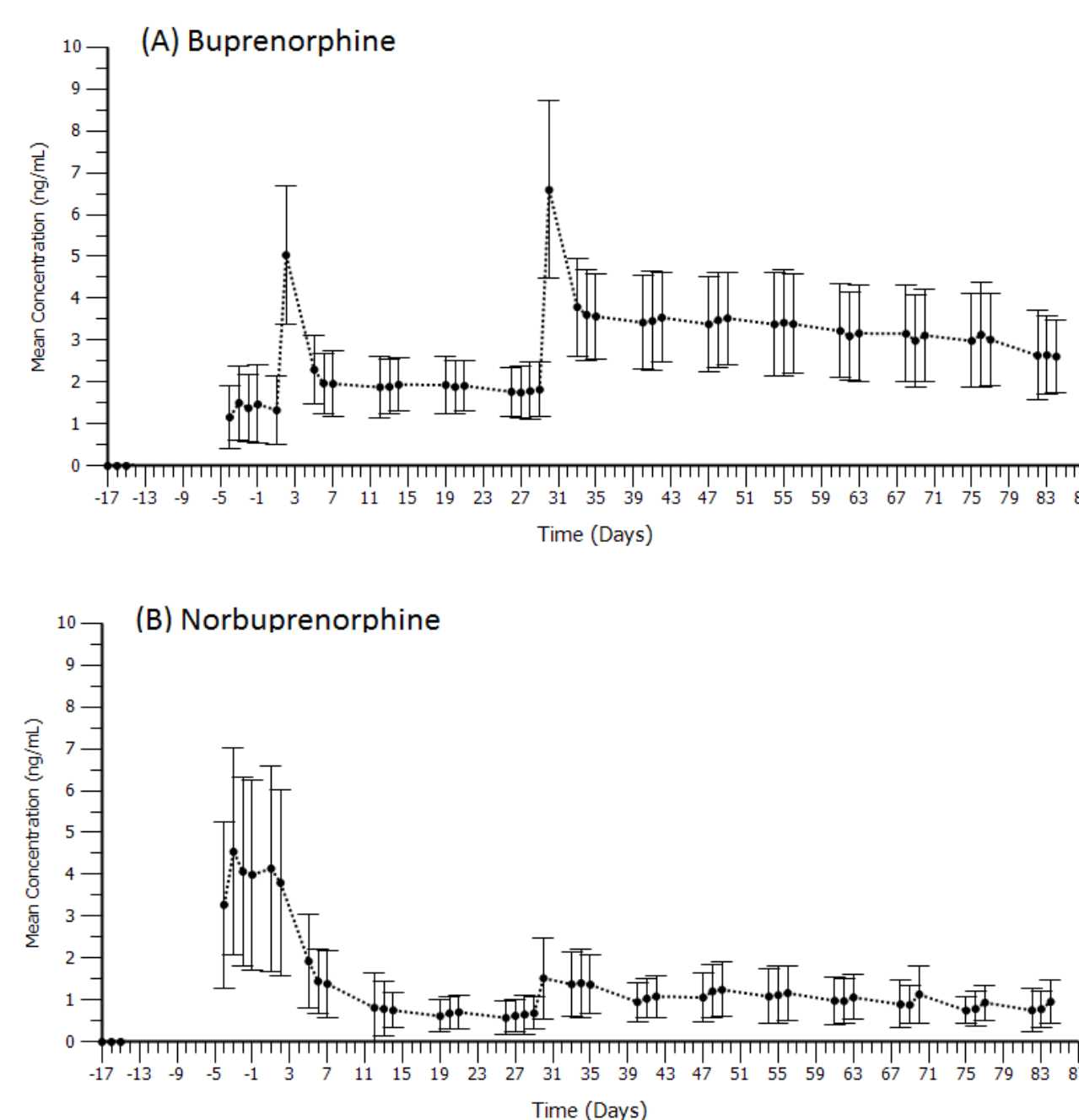


Figure 1. (A) Mean \pm SD buprenorphine plasma concentrations; (B) Mean \pm SD norbuprenorphine plasma concentrations (before and 24 hr after sustained-release buprenorphine on Day 1, immediately before hydromorphone administration on Days -17, -16, -15, -3, -2, -1, 5-7, etc) (ITT population). ITT, intent-to-treat; SD, standard deviation.

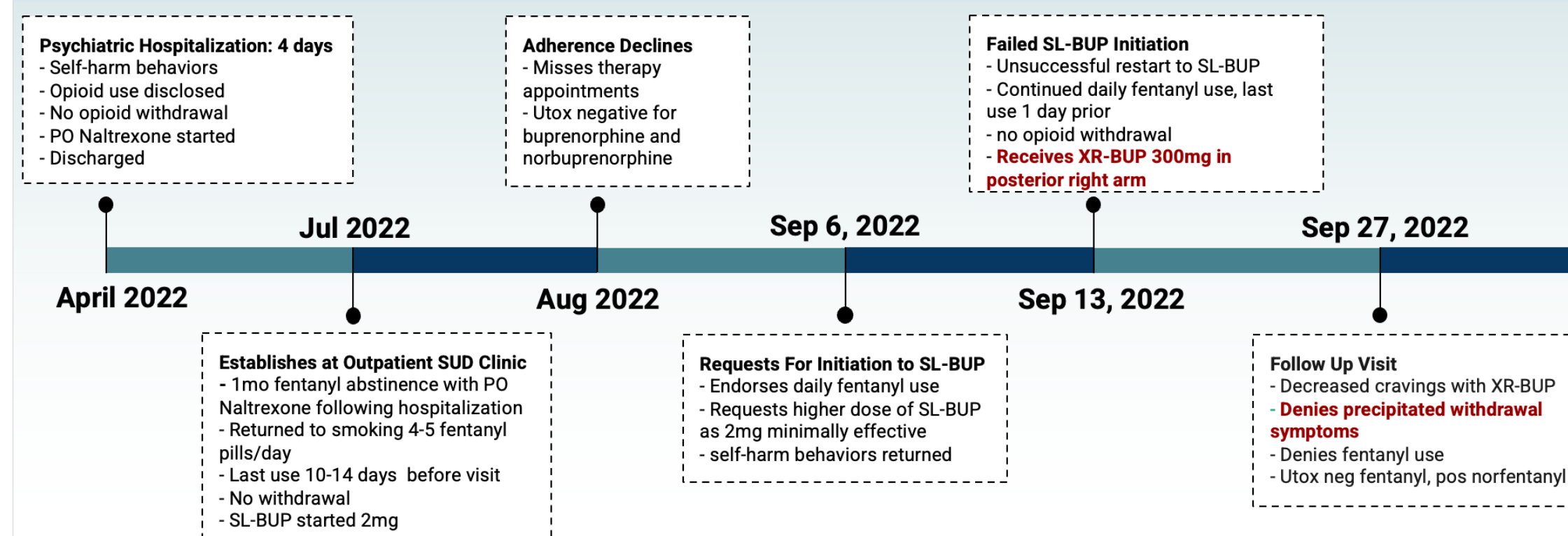
CASE REPORTS

Case 1: 15-year-old Latino male

PMH: Severe opioid use disorder, adjustment disorder, self-harm behaviors, moderate cannabis use disorder

Current Opioid Use: Smoking 4-5 illicit fentanyl pills/day

Treatment Hx: PO Naltrexone, SL-BUP

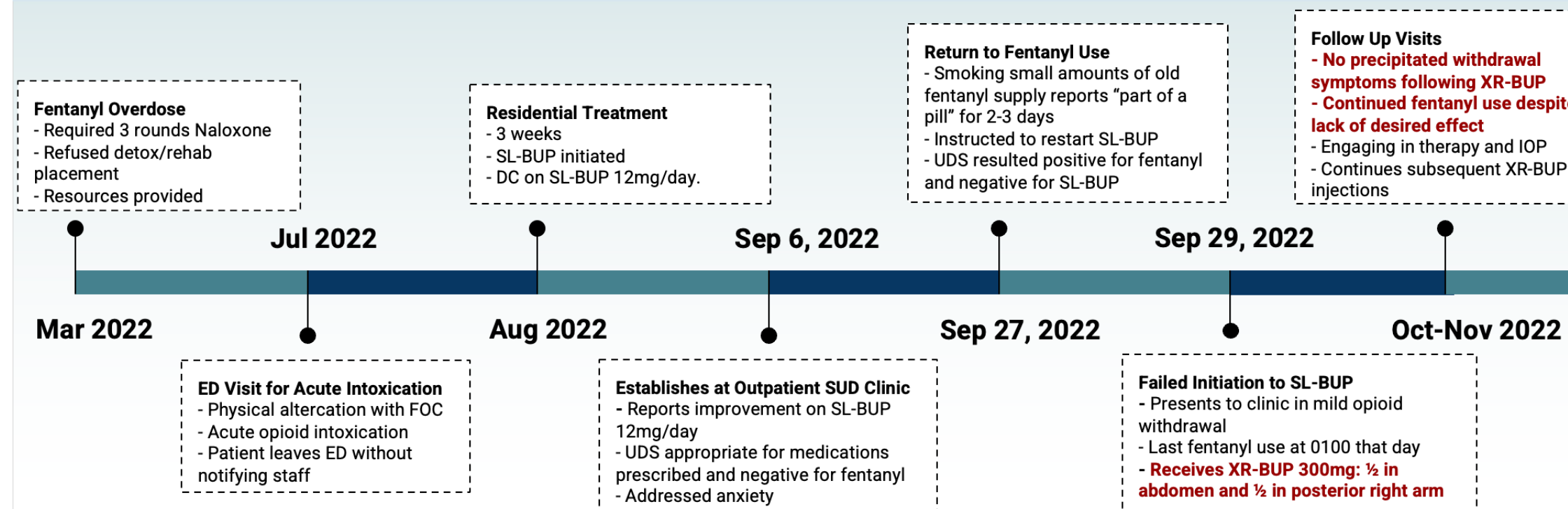


Case 2: 16-year-old Latino male

PMH: Severe opioid use disorder, hx of opioid overdose, unspecified mood disorder, suicidal ideations, moderate cannabis use disorder

Current Opioid Use: Smoking 20 illicit fentanyl pills/day

Treatment Hx: Detox, residential, SL-BUP



DISCUSSION

- There is limited literature that demonstrates the safety of XR-BUP in adolescent patients
- No literature available regarding the direct transition from daily illicit fentanyl use to XR-BUP without a period of SL-BUP stabilization in adolescents
- These case studies demonstrate success with the utilization of XR-BUP in adolescents and propose an alternative BUP initiation process when patients use fentanyl

CONCLUSION

- There is an urgent need for further investigation into expedited BUP initiation protocols that utilize XR-BUP, especially in adolescent patients where SL-BUP medication nonadherence remains a persistent barrier to sustained recovery

AUTHORS

Tirzah Wethern, MD, Susan L. Calcaterra, MD, MPH, MS, Kaylin Klie, MD, MA, FASAM, Christian Thurstone, MD, no disclosures.

REFERENCES

- Friedman J, Godvin M, Shover CL, Gone JP, Hansen H, Schriger DL. Trends in Drug Overdose Deaths Among US Adolescents, January 2010 to June 2021. *JAMA*. Apr 12, 2022;327(14):1398-1400. doi:10.1001/jama.2022.2847
- Varshneya NB, Thakrar AP, Hobelmann JG, Dunn KE, Huhn AS. Evidence of Buprenorphine-precipitated Withdrawal in Persons Who Use Fentanyl. *J Addict Med*. Jul-Aug 01 2022;16(4):e265-e268. doi:10.1097/ADM.0000000000000922
- Vogel M, Hämig R, Kemter A, et al. Use of microdoses for induction of buprenorphine treatment with overlapping full opioid agonist use: the Bernese method. *Subst Abuse Rehabil*. 2016;7:99-105. <https://doi.org/10.2147/SAR.S109919>
- Nasser AF, Greenwald MK, Vince B, et al. Sustained-Release Buprenorphine (RBP-6000) Blocks the Effects of Opioid Challenge With Hydromorphone in Subjects With Opioid Use Disorder. *J Clin Psychopharmacol*. Feb 2016;36(1):18-26. doi:10.1097/JCP.0000000000000434
- Herring AA, Vosooghi AA, Luftig J, et al. High-Dose Buprenorphine Induction in the Emergency Department for Treatment of Opioid Use Disorder. *JAMA Netw Open*. Jul 1 2021;4(7):e2117128. doi:10.1001/jamanetworkopen.2021.17128